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Ms. Geraldyn Downes-Valls
USEPA Region III
PA CERCLA - Remedial Enforcement Support
841 Chestnut Street
Philadelphia, PA 19107

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Subject: Draft Letter Report on Volumes and Gross Cost Estimates for Excavation of Fill Material and Soils on the Pennsylvania Turnpike Property at the Henderson Road Site

Dear Ms. Downes-Valls:

Camp Dresser & McKee Inc. (CDM) has reviewed appropriate sections of Volumes 1 and 2 of the RI and FS reports, to check the volume estimates provided by BCM for the trash and cinder fill material located off of the O'Hara property, and on property owned by the Pennsylvania Turnpike Authority.

BCM's overall volume estimates (presented on page 1-18 of the FS) were quite conservative, largely because they used the maximum thickness of cinder and trash fill, respectively, for their estimates. CDM came very close to their estimates of area using a planimeter and Figure 3-1 of the RI report. The aerial extent of the fill was reportedly delineated by field observation, particularly at the west and northwest edges of the fill. However, there is no data in the report to substantiate this.

BCM's estimate of cinder fill on turnpike property appears to be reasonable. It is not overly conservative, however, as test pit #4 is located in the area that constitutes the majority of offsite cinders. Test pit #4 logged 3 feet of cinder. A thin sliver is also located offsite further to the east. The total area proposed by BCM (230 cubic yards) is acceptable. The extent of cinder fill beneath the trash fill in offsite areas is unknown (1.5 feet observed in TP-2), however it would likely be mixed in with the trash fill if excavated. It would also most likely show similar contamination to the overlying trash fill and should therefore be included in the volume estimate for this fill.

BCM's estimate of trash fill on turnpike property is more conservative, as they used a thickness of 4 yards (12 feet) to calculate volume, this

volume would easily account for the total thickness of trash and cinder fill, encountered in TP-2 (fill totals 9 feet). BCM's estimate of areal extent (13,500 square feet) was confirmed by planimeter.

There is little information from which to determine the thickness of natural soils that should be excavated. While samples were collected at TP-1, 2 and 4, all of which are in offsite fill areas, only the sample from TP-2 underwent analysis. Part per billion (PPB) concentrations of volatile organic compounds (VOC's) and part per million (PPM) concentrations of base neutrals were detected in the sample, which was collected from the base of test pit #2. Organic values were noted at TP-1 (1,000 RPM in pit), however, as previously mentioned, samples were not analyzed to confirm the presence of contamination. Test boring #1, which was installed near TP-1 also showed elevated levels of total VOC's (measured with an HNu) within the fill. However, the interval between 0-5 feet below the fill was apparently not monitored. A sample collected at the base of the fill showed the presence of PPB levels of polynuclear aromatic hydrocarbons (PAH's). VOC's were not detected, however, the detection limit for the analytical method was on the order of 1 PPM. Organic vapor readings were not measured through the sample interval. Organic vapor levels were at background 5-6 feet below the base of the fill. Elsewhere on the landfill, organic contaminants were detected in samples collected up to 3 feet below the base of the fill. Based on this, it is recommended that a thickness of 5 feet below the trash fill be used for planning purposes. Since the offsite cinder fill is well outside of the area where leachate was observed, and showed no evidence of volatile organics compounds based on air monitoring, it is recommended that a 3 foot thickness of natural soils below the fill be used for planning purposes. These thicknesses should be considered conservative. As thickness of the overburden between the fill material and bedrock appears to be between 35 and 40 feet, excavation of 3-5 feet of soil below the trash/cinder fill should not have a significant impact on the integrity of the overburden material and its function as a low permeability layer.

Based on a thickness of 3 and 5 feet (for natural soils), the additional volume can be estimated as follows:

Soil below cinder fill:

230 yards^2
3 feet = 1 yard
$1 \times 230 = 230 \text{ yards}^3$

Soil below trash fill:

$1{,}500 \text{ yards}^2$
5 feet = 1.67 yards
$1.67 \times 1500 = 2{,}505 \text{ yards}^3$

The total volumes of cinder and trash fill estimated to be located on the Pennsylvania Turnpike property are described below (and are presented on page 1-18 of the FS):

- Approximately 230 cubic yards of cinders covering approximately 2,100 square feet (3 feet in depth) are located adjacent to the northwest corner of the site.

- Approximately 5,000 cubic yards of cinders covering approximately 13,500 square feet (at a depth of 12 feet) are located along the Pennsylvania Turnpike to the north.

General costs for excavation of the trash and cinder fill onto the disposal area within the property boundaries and backfilling offsite excavations is approximately $40 per cubic yard. Based on this unit cost (which is the unit cost used by BCM in the FS), the cost of excavating and backfilling on the Pennsyvania Turnpike property and depositing the fill onsite is estimated as:

- Cinder fill - 230 cubic yards X $40/cubic yard = $9,200
- Trash fill - 5,000 cubic yards X $40/cubic yard = $200,000

TOTAL $209,200

General costs for excavating soils below the cinder and trash fill in the offsite areas are based on $50 per cubic yard (as stated in the BCM FS). The extra cost assumes that dewatering will be required during excavation and backfill operations. Costs for excavating and backfilling soils are estimated as follows:

- Cinder fill - 230 cubic yards X $50/cubic yard = $11,500
- Trash fill - 2,505 cubic yards X $50/cubic yard = $125,250

TOTAL = $136,750

Additional costs may be required to dispose of perched water requiring removal during excavation. At this time, insufficient information is available to estimate water disposal costs, however, associated costs should not greatly impact the total cost of excavation and backfill operations.

Additional cost may also be necessary if treated prior to disposal. Little chemcial data has been generated in the area along the Pennsylvania Turnpike property, therefore, it is not known if the materials requires treatment prior to disposal or what type of treatment may be appropriate. The one sample collected from test pit #2 contained VOC's, PAH's, and PCB's. Assuming this is representative of chemicals that may be present in

the soils below the fill in this area, incineration is considered as a treatment for costing purposes. A unit cost for packaging, transporting, incinerating, and disposing of soils below the trash and cinder fill is estimated at $2,200 per cubic yard, which also includes associated laboratory analysis of the material.

The costs associated with treatment is therefore estimated as the following:

- 2,805 cubic yards X $2,200/cubic yard = $6.171 million

Because the cost of incineration is considered excessive, additional testing and disposal of these soils onsite should be pursued.

If you have any questions or concerns, please feel free to call.

Sincerely,

CAMP DRESSER & McKEE INC.

Debra S. Glover

Debra S. Glover

cc: J. Cattafe
P. Gerbasi
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